CLAIMS

What is claimed is:

1. A computerized method for building a model for analyzing genotyping data comprising:

Imputing probe intensities from multiple samples, wherein the probes are designed to interrogate a SNP;

Performing a feature extraction on the probe intensities;

Performing a partition around medioids (PAM) analysis and classification; and

Building a SNP model.

2. The method of Claim 1 further comprising calculating average silhouette width for quantifying the quality of the classification.

3. The method of Claim 1 wherein the feature extraction comprises analyzing the intensities using a rank-based analysis.

4. The method of Claim 3 wherein the feature extraction comprises analyzing the relative sum of signed ranks.

5. The method of Claim 4 wherein the feature extraction comprises applying a detection filter.

6. The method of Claim 5 wherein the feature extraction comprises estimating a relative allele signal (RAS).

7. The method of Claim 6 wherein the model is a multivariate normal model.

8. The method of Claim 7 wherein the multivariate normal model comprises a sample covariance matrices.

9. A computerized method for analyzing genotyping data comprising:

Imputing in probe intensities from a sample, wherein the probes are designed to interrogate a SNP;

Performing a feature extraction on the probe intensities;

Performing a model based classification.

10. The method of Claim 9 wherein the feature extraction comprises analyzing the intensities using a rank-based analysis.

11. The method of Claim 9 wherein the feature extraction comprises analyzing the relative sum of signed ranks.

12. The method of Claim 11 wherein the feature extraction comprises applying a detection filter.

13. The method of Claim 12 wherein the feature extraction comprises estimating a relative allele signal (RAS).

14. The method of Claim 9 wherein the model is a multivariate normal model.

15. The method of Claim 9 wherein the multivariate normal model comprises a sample covariance matrices.

16. The method of Claim 9 further comprising calculating the classification quality.